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ABSTRACT

Anti-nuclear discourse, which peaked in 1981-82, signaled an emergence of public discourse on the nuclear warfare issue. During the development of the original atomic bomb, public discussion of the issue was severely restricted, but immediately after the bombing of Hiroshima and Nagasaki, discourse on the subject increased. During the Cold War era, serious discourse occurred within only a few special interest groups supporting disarmament and among government officials and foreign policy elites. Discussion during the early 1960s centered on the controversy surrounding testing. In 1981-82, the American public began attending to and generating discourse on the subject of nuclear warfare. Many books, monographs, and films were produced illustrating the effects, especially the negative effects, of nuclear war. Little imaginative literature dealt with the subject; instead the discourse emerged in serious, non-fiction realms. In these works, the cause of the potential for nuclear holocaust is political, specifically either deception by the government, national sovereignty, or citizen apathy or ignorance. Contemporary discussion of nuclear warfare signals a reversal in the speaker-audience relationships. In the past, elite experts directed their comments toward the populace; now the public itself is gaining legitimacy as a voice on this issue. (SRT)

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PUBLIC DISCUSSION OF NUCLEAR WARFARE:

A TIME FOR HOPE

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Public Discussion of Nuclear Warfare: A Time for Hope

As of this writing the U.S. is unique in that it is the only sovereign nation to have engaged in nuclear warfare. Since that initial engagement in 1945, the issue of nuclear warfare has captured the spotlight of public attention on several occasions, while at other times controversy and concern have receded to the background of the public's collective conscience. From the vantage point of 1985, classifying nuclear warfare as a "public issue" is not a matter of controversy. However, as the description of communication practices in this essay will suggest, for many of the years between 1945 and 1985, "public discourse" about that "public issue" has been relatively absent.

In contrast to previous periods, the anti-nuclear discourse that peaked in 1981-82 and its aftermath represents an emergence of public discourse on the nuclear warfare issue that I argue signals a re-politization of ordinary citizens and a rediscovery of the public sphere. Analysis of a representative sample of contemporary anti-nuclear discourse reveals that the public both generates and attends to messages about nuclear war more consistently than during previous periods. The communication practices by which these messages are generated and consumed encourage public discussion and discourage discussion that is limited to government officials or policy elites. Set in a context of serious, complex and factual discussion, the messages themselves provide an intensely personal perspective toward both the effects of nuclear war and the potential ways of avoiding war. Confronted with the desire to find the simple truth about an issue cloaked in complexity and replete with ironies, the public discussion manifests a concern for truth that places the government in a power struggle with the governed.

Most scholars distinguish "public" from "private" by noting the essential difference as one of community interests versus individual interests (Arendt

50; Sennett 50). Obviously any discussion of nuclear warfare potentially entails consequences for the people as a whole, the citizenry, and therefore may be defined as discussion about a public issue. To define any discussion about a public issue as public discourse, however, is to make an assumptive leap that has been called into question by several contemporary rhetoricians (Bitzer, McGee and Martin, Hauser and Blair, Habermas).

Prior to the contemporary discussion of what constitutes a rhetorical public, "public discourse" was generally assumed to exist if the message under examination was "open to the view of all"(Wilson and Arnold 7). Thus by traditional standards, if discourse is available for public scrutiny it is "public discourse." More recent scholarship has suggested additional requirements for "public discourse." Bitzer, for example, notes the modification of the nature of truths (facts and experiences) and values that occurs in a move from the private sphere to the public sphere(Bitzer 67-93). He notes that such a community perspective gives "substance and voice to the universal public"(Bitzer 91). Bitzer's position seems to add the requirement that discourse rest on public interests as conceptualized by scholars like Dewey, Arendt, and Sennett.

However, as McGee and Martin point out, these philosophies of publicness run the historically real risk of subjecting the citizenry to public knowledge as operationalized by experts and governmental officials who claim to have community interests in mind, but who do not themselves constitute examples of ordinary citizens(47-69). Hence, many scholars go a step further and argue that "public" discourse is distinguished from private on the basis of availability and accessibility (Habermas, "Public Sphere" 49; Arendt 50).

Habermas, for example, argues that all participants must have equal opportunity to subject claims to argument, to evaluate those claims in terms

of their verifiability and appropriateness to context, to call into question the original conceptual framework by which claims are made, and to reflect on our motivations for engaging in the discourse(Communication 2-5, 31-2, 51-9). Similarly, Hauser and Blair postulate that "rhetorical experience of a public nature entails" a "presentational orientation toward communication" in which audiences may establish social bonds with strangers via socially shared rules for interpretation(143).

My argument in this essay rests on the more restrictive conception of public discourse suggested by contemporary theorists. In other words, "public discourse" exists not just when messages about nuclear warfare are open to the view of all, but when that openness engenders controversy to which ordinary citizens attend and in which ordinary citizens participate, thereby establishing social bonds with strangers in order to resolve an issue because of serious concern for that resolution.

The remainder of this essay explains how contemporary anti-nuclear discourse differs from prior discourse about nuclear warfare in terms of its publicness. The first section characterizes the general treatment of the issue during the last five decades as one of government appropriation. By referring to an analysis of a representative sample of discourse from the early 1980s, I describe how the public has become increasingly involved in the discussion of this issue. The import of "public" discussion about nuclear warfare is explored briefly in the conclusion.

Government Appropriation of the Issue

With few exceptions, most historical studies have concentrated on one of four periods of development of nuclear weapons policies: 1) events leading to the massive effort to develop atomic bombs during World War II, 2) events including and immediately following the United States' detonation of bombs

over Hiroshima and Nagasaki, 3) the Cold War era, and 4) events surrounding the controversy about and final passage of the Nuclear Test Ban Treaty of 1963. The discursive practices during these four periods provide a backdrop and base of comparison for the contemporary anti-nuclear discussion.

Self Censorship and Government Classification

Reports of the first period, development of the bomb, indicate that public discussion of the issue was severely restricted. Prior to 1939, what little discussion of atomic warfare existed found itself in the form of science fiction novels. Following the publication of The Interpretation of Radium and the Structure of the Atom by Frederick Soddy in 1909, H. G. Wells forecast the use of the atom for production of atomic bombs in his 1914 novel, The World Set Free(Wells 203). The World Set Free predicted that the discovery of atomic bombs and their use in war would make war so devastating that the world would be forced to establish an international government to control atomic energy and outlaw war. Leo Szilard, a Hungarian-born physicist, read The World Set Free in 1932, a time during which the neutron had just been discovered and during which he was a close associate of Albert Einstein at the University of Berlin. Between 1909 and 1940, scholarly, scientific discourse regarding atoms and fission was available, but little public discourse regarding atomic warfare existed.[1] Of the 61 entries in the Reader's Guide under the headings of "atomic power" and "atoms," only three discussed the possible effects of atom-smashing; none speculated about nuclear warfare.

In 1939 Szilard convinced Einstein to write the now famous letter to President Roosevelt, warning him of the danger of Nazi research into atomic bomb production. The result was not only an elaborate program by the U.S. Government to produce an atomic bomb first, but also a system of government classification and secrecy that severely restricted the flow of public

discourse on the subject of atomic warfare(Hilgartner, et al 16-21; Sherwin 26-30). During the years of World War II hardly any public discourse on the issue of atomic warfare was available. The Reader's Guide indicates that from 1940 to 1945 only three articles of the 31 total entered under "atoms" or "atomic power" dealt with the subject, compared to the 61 entries for the period 1939-40; government censorship had reduced that number to half for the following five years combined. Perhaps the major exception to this lack of public discourse were several articles written by William L. Laurence, the only journalist to witness the first atomic explosion in New Mexico. Even these articles, which appeared in the New York Times and The Saturday Evening Post, were written in 1939 and 1940 and discussed atomic energy generally, rather than atomic warfare particularly.

Government Censorship and Public Optimism

In contrast, the second period, immediately after Hiroshima and Nagasaki is characterized by a surge of discourse on the subject. Even so, continued government censorship[2] and public relief that the war had ended stifled a more complete public discussion of the issue. However, several discursive events of this period bear noting.

On August 6, 1945, President Truman broke the nearly five year silence with his press release indicating that the bomb had been dropped on Hiroshima. Compared to the previous five years, a virtual explosion of public discourse followed Truman's announcement. Between August of 1945 and April of 1947, the Reader's Guide listed 371 articles on the subject and expanded their categories from "atom" and "atomic power" to include such categories as "atomic bombs," "atomic bomb tests," "atomic power control," "atomic power terminology," "atomic research," and "atomic warfare." Despite the increased public discussion, government secrecy and censorship still prevailed. At least

one historian has suggested that "the administration's initial monopoly on the facts about Hiroshima and Nagasaki and its subsequent censorship practices -- whatever the administration's actual intentions -- produced certain effects resembling those resulting from a policy of managed news"(Yavenditti 287). Yavenditti's study of American reactions to use of the atomic bomb indicates that John Hersey's Hiroshima was the single most important item of public discourse during the two years following Hiroshima and Nagasaki(395).

In addition to Hersey's book, two other notable discursive events took place during this time. The Senate commenced hearings on atomic energy in November 1945, and the scientific community founded the Bulletin of the Atomic Scientists. In 1947 the Bulletin invented the doomsday clock, a clock appearing on the cover of the monthly magazine which, in keeping with the Bulletin's role as "the Paul Revere's of the post-war period," was intended as a warning of the danger of the outbreak of nuclear war(Feld 2). At the same time that the community of scientists entered into public discourse on the subject, the religious community began to question the morality of war, particularly atomic war, but scholars and businessmen hailed the coming of a new age. "For the most part, the press either sympathized with American decision-makers or at least printed little that would foster misgivings among Americans"(Yavenditti 303). The average American rarely discussed atomic energy and, according to a Social Science Research Council survey in 1947, only about one-quarter of the Americans responding said they were particularly worried about the atomic bomb(qtd. in Yavenditti 304). A survey of articles during this period indicates that the major topics of interest centered around what the bomb was, how it had been developed, how its secret might be kept, and what promise its development held for domestic progress. The only major exceptions to this characterization were Hersey's book and essays by scholars such as Albert Einstein and Bertrand Russell published by the Bulletin of the

Atomic Scientists.

Government Public Relations and Public Confusion

The third frequently studied period of nuclear warfare discourse, the Cold War era, marks a shift from the discourse of the second period. In the middle fifties, the U.S. Government conducted numerous weapons tests and devised a public relations campaign, known as "Atoms for Peace," to coincide with continued development of atomic energy and nuclear weapons(Hilgartner, et al Ch. 6). At the same time, a number of foreign policy experts devised strategies of diplomacy which necessitated allegiance to doctrines ranging from deterrence to a flexible response posture for NATO. A number of books discussing East-West relations and the link between nuclear weapons and foreign policy were published; however few received much public attention. Efforts by Adlai Stevenson between 1954 and 1956 to make fallout and a test-ban important issues in the presidential campaign failed. Despite widespread fear regarding the Soviet Union's successful production of a hydrogen bomb, "more Americans responded 'don't know' to public opinion surveys about testing, fallout, and disarmament than those responding favorably or unfavorably"(Rosi 132). A New York Times election survey indicated that discussion of the subject by Eisenhower and Stevenson had left the public "numb, bewildered, or indifferent"(qtd. by Rosi 38). The serious discourse that occurred at this time was attended to primarily by a few special interest groups for disarmament and a complex of government officials and foreign policy elites.

Among those messages attended to by special interest groups, two are exemplary of a unique attitude of reflection and concern about nuclear weapons. One of these was a full page advertisement that appeared in the New York Times, November 15, 1957. The advertisement was entitled, "We are facing

a danger unlike any danger that has ever existed," and was signed by a number of prominent individuals, including Norman Cousins, Erich Fromm, and Eleanor Roosevelt. Readers were encouraged to sponsor a newly-formed group in New York called the National Committee for a Sane Nuclear Policy (SANE). The response was declared "overwhelming" by the organization(Sane 1).

The second exemplary discursive event was the continuation of essays in the Bulletin regarding the need to prevent nuclear warfare. Notable among these was the Einstein-Russell Manifesto, printed in the September 1955 Bulletin, which called on the international community of scientists to seek means for preventing another world war. This marked the beginning of the Pugwash Conferences, designed to foster a world community of scientists.

For the American citizenry, however, imaginative discourse on the subject may have been far more influential. Perhaps the message most widely attended to during this period was Nevile Shute's novel, On the Beach, one of only four books on this subject ever to make the annual best-seller's list. The book was made into a movie that was released in 1959 and subsequently has been listed by Variety as one of the most widely distributed films in history.

Government Control of Information and Public Attention to Fiction

In many respects the discussions of the fourth period, the early 1960's, prior to and including the signing of the 1963 Test Ban Treaty, resembled those of the Cold War Period. The difference was that at this time the public appeared to attend to the controversy surrounding testing. Government control of information persisted and discussion of foreign policy generally remained directed toward special audiences; however, the popular media discussed testing and fallout at length and preceded official concern about testing by one to five years(O'Hara 22). As with the previous period, imaginative literature again assumed importance in terms of public attention(Segal Ch. 1).

Fail-Safe, a best-selling novel by Eugene Burdick and Harvey Wheeler in

1962, was transformed into a top money-making film in 1964. With its release, a new topic of discussion, accidental nuclear war, received wide public attention. Nineteen sixty-four also saw the release of the first satirical work concerning nuclear war, "Dr. Strangelove." This film remains to date the most-seen film on the subject. A variety of political discourse by governmental officials and foreign policy experts appeared around the time of the Cuban missile crisis, and, of course, the Kennedy Administration launched an ambitious program for civil defense that was accompanied by a plethora of discourse concerning bomb shelters. However, as was true of the earlier periods, most discourse was practiced by an elite group of experts -- government officials, foreign policy experts, and scientific experts. The American citizenry remained relatively passive and attended to imaginative discourse on the subject much more frequently than they attended to serious, non-fiction discourse. As one study of the rhetoric from Hiroshima to the Nuclear Test Ban Treaty put it:

> . . . it should be of particular interest to note the relative absence of involvement by the people of the U.S. in a matter which so vitally concerns their very existence. Indeed, due to the nature of the problems involved, it was considered impossible to give the people an active and meaningful role in the decision-making on this issue. Thus, in a formal sense, the people simply were not consulted in the series of decisions made to further the development of nuclear weapons. (Sands 18)

Public Attention and Reaction

In contrast to the periods of discursive activity just described, the period 1981-82 seemed to exhibit a radical shift in discursive practice. Suddenly, during this period, the American public began not only attending to, but generating, discourse on the subject of nuclear warfare. During this period, the nuclear issue made the cover story of the two most widely circulated news periodicals in the country, Newsweek and Time. A Gallup Poll in March of 1982 indicated that 72% of Americans knew about and favored a

U.S.-Soviet pact not to build any more nuclear weapons(Richardson 24). Following an unprecedented House debate on the arms race, seven different joint resolutions on the subject were introduced in the Senate and House. Time magazine reported on March 19, 1982:

> The resolutions on Capitol Hill are the small tip of a very large iceberg. In part, the Senators who favor the motions are responding to an unprecedented flood of teach-ins, referenda, legislative proposals, letter-writing campaigns, petitions, and books addressing the peril of nuclear war. (Time 10)

A group of 35 world religious leaders--including the Dalai Lama, the Secretary General of the World Muslim Congress and the President of the National Council of Churches--called on all nations to "freeze and reverse the arms-race as a first and crucial step toward disarmament"(Alpern 19). The editor of the Bulletin of the Atomic Scientists summed up the proliferation of public discourse during this period aptly:

> For 37 years the Bulletin addressed and was listened to by a small audience. Quite suddenly, the arms race has become everybody's concern, the clergy, physicians, students, business people, ordinary women and men, and God help us, even some Senators and Congressmen, are realizing that the arms race is expensive, dangerous, and can have only one outcome if it is not stopped. (Gomer 3)

A review of news articles during this period indicated that the discourse on this subject peaked in 1982 through a series of discursive events. In February, Jonathan Schell's book, The Fate of the Earth, appeared in serial in The New Yorker. In the first week of March, 161 town meetings in Vermont passed resolutions calling for a mutual and verifiable freeze on testing, production, and deployment of nuclear weapons. The following week, Congress held an open debate on the arms race and Senators Kennedy and Hatfield introduced a similar resolution in the Senate and House. Then Secretary of State Alexander Haig immediately dismissed the resolution as naive and preposterous. During the same week, late Premier Brezhnev announced the

willingness of the Soviet Union to participate in a bilateral freeze in Europe. Brezhnev's proposal met with little response from the Reagan Administration. On April 1st, President Reagan announced in his evening press conference that U.S. military forces were inferior to Soviet forces. Exactly one week later Foreign Affairs published an essay by four former foreign policy experts (MacNamara, Bundy, Kennan, and Smith) who had helped to fashion NATO's first strike policy-option. These four experts in April of 1982 were advocating abandonment of the first strike option. Throughout April a variety of religious leaders, including the National Council of Churches and the U.S. Bishops of the Catholic Church, called for worldwide nuclear disarmament. During the last week of April, a newly formed organization, Ground Zero, conducted lectures, seminars and a variety of educational activities across the nation in an educational campaign known as Ground Zero Week. A variety of anti-nuclear organizations, including Physicians for Social Responsibility, the Union of Concerned Scientists, Citizens for Survival, and others, conducted educational meetings and circulated nuclear freeze petitions throughout the months of April and May. On Memorial Day, President Reagan presented his first speech dealing exclusively with nuclear weapons policy to the graduating class of Eureka College, his alma mater. June 7 marked the beginning of a special United Nations session on disarmament. At the end of the first week of this session, over 700,000 people from across the country and the world participated in the largest rally against nuclear weapons ever held in the United States.

Despite the initiation of Reagan's START talks on June 29, anti-nuclear activities continued throughout the summer and fall. By November 11, 1982, declared to be a Nuclear Convocation Day in most cities and on most college campuses in the U.S., over 40 books on the subject of nuclear warfare had been rushed to press. Over 200 national, state, and local anti-nuclear

organizations had been established and had accumulated or produced a wide range of films, pamphlets, addresses, and articles concerning the nuclear warfare issue.

As the preceding discussion implies, the public was far more involved in discursive practice during the most recent period, than at any other time. In contrast to earlier periods, during which opinions seemed to favor the use of atomic weapons in World War II, or to remain neutral on the issue of a test ban, or not to be made at all, in 1982 opinions were clearly aligned against further development of nuclear warfare capabilities. The public's involvement in discussion about nuclear warfare in 1982 stands out as unique.

The remainder of this essay explains how public discourse on this issue was legitimized during this period. I will argue first that public discourse was legitimized through a characteristically serious treatment that personalized the issue and, secondly, that non-public discourse was de-legitimized through an emphasis on the deceptive potential of communication that promoted skepticism about official government statements thereby dividing the Government from the governed.

The description of discursive practice that follows is based on a representative sample of public discourse from the contemporary period analyzed by traditional rhetorical critical methods and an application of Michel Foucault's archaeological method.[3] A survey of the Reader's Guide reveals that during the 1981-82 period three of the four categories displaying the most entries were ones not previously entered in the Guide: "atomic weapons--moral and religious aspects," "disarmament," and "anti-nuclear movement." On the basis of reference guides for librarians, 66 articles were selected from the four most widely circulated periodicals dealing with nuclear warfare. A survey of these articles revealed 20 additional messages, or

discursive events, during the 1981-82 period. Any American who attended to the issue of nuclear warfare during this period is likely to have encountered at least one, and probably several, of these messages. The remainder of this essay describes the discursive practices that surrounded the production and consumption of these 86 messages.

Public Appropriation of the Issue

Compared to previous periods, contemporary anti-nuclear discourse presents the issue in serious forms that emphasize the complexity of the issue. Although the primary rhetors assume a persona of elite expertise, their interpretations of the issue invite public discussion by personalizing the effects of nuclear war and the potential for avoiding war. Moreover, the use of official government statements and irony as points of departure delegitimizes discussion of the issue by government and further encourages public discussion. These claims are elaborated by the characteristics of discourse described below.

Complexity

The first characteristic that distinguishes the contemporary period is the complex treatment of the issue that invites serious reflection. During the period studied, anti-nuclear warfare discourse emerges in four forms: books, monographs, short documentary films, and less formal discussion at public meetings. The plethora of short news-type articles on the subject of nuclear warfare during this period tend to focus on descriptions of mass events such as Ground Zero Day, the Peace March on the United Nations, and Nuclear Convocation Day. Despite the fact that each of these events has included a variety of public addresses from a variety of experts, those addresses are rarely reproduced or disseminated by the various anti-nuclear groups. Instead, their pamphlets, newsletters, and meetings suggest a far

greater reliance on books, reprints of monographs, and documentary films as the media of choice. Public meetings tend to be held under the auspices of a variety of institutional groups tend to distribute newsletters containing short monographs, to show documentary films, and to provide a forum for minor public addresses on the subject.

Frequently, the discussions at such meetings generate books and longer monographs which are subsequently distributed to the public. For example, following informal discussions and formal hearings in 1980, 1981 and 1982, the National Council of Catholic Bishops produced a pastoral letter, entitled "The Challenge of Peace, God's Promise and Our Response," that used testimony and arguments from the earlier meetings but was intended for wider circulation to both the Catholic layity and the American public. Similarly, meetings of Physicians for Social Responsibility inspired the development of a new group, International Physicians for the Prevention of Nuclear War, that held their First Congress in March of 1981 and in 1982 published a book comprised primarily of papers presented at that First Congress.

Organized groups have also generated documentary films. The Center for Defense Information, an independent research institution, funded the production of "War Without Winners," a short educational documentary about the arms race.[4] The film was shown by a variety of anti-nuclear groups in 1982 and aired during prime-time television on independent network channels in April of 1983. Similarly, Physicians for Social Responsibility sponsored production of the documentary, "If You Love This Planet," narrated by Dr. Helen Caldicott. It too has been shown at a variety of public meetings in the early '80s.

Although many of the books, monographs and films were produced as either a direct or indirect result of the meetings of organizations, several noteworthy works were the result of independent journalistic efforts.

Certainly the most prominent of these is The Fate of the Earth, by Jonathan Schell. Described as "the principal manifesto for advocates of a nuclear-arms freeze, as well as an inspiration for numerous speeches, lectures, editorials and sermons"(Talbott 20), Helen Caldicott has called it "the new Bible of our time"(Miller 97). Robert Scheer's With Enough Shovels presents a report of the Reagan Administration's approach to nuclear warfare by investigating official government statements on the subject in a manner similar to the Sierra Club's book, Nukespeak.

Two other widely shown documentaries, "The War Game" and "The Atomic Cafe." were also the result of independent efforts. Originally produced for the British Broadcasting Corporation in 1966, "The War Game" holds the distinction of never being aired on BBC television, on U.S. television, or other national networks, but of still being awarded an Oscar as "Best Feature Documentary" for 1966(Shaheen 109). "The Atomic Cafe" has a similar history. Five years in the making, in 1982 the film received the "Best Documentary Award" from the Canadian Film Board; however, it was censored in the U.S. As of this writing, its distribution in the U.S. has been spotty, but it has been shown at meetings sponsored by a variety of anti-nuclear groups(Central Penn. Citizens for Survival). These journalistic works differ from other books, not so much in orientation and topics covered as in their relationship to an organizational structure. In other words, they represent independent efforts rather than the collective efforts of an organized group.

There has been little imaginative literature on the subject during this time period. In contrast to all other periods, novels and commercial films dealing with the subject of nuclear warfare have been relatively absent.[5] Instead the discourse has emerged in serious, non-fiction realms almost exclusively. Reviews of nuclear warfare films (Shaheen) and imaginative

literature on the theme of nuclear warfare(Segal) verify a trend away from fiction books and feature films and toward non-fiction books and documentaries that began around 1965 and has continued to the present.

The media of transmission--books, monographs, documentaries--indicate the complexity of the nuclear warfare issue. The lack of imaginative literature using narrative style, or major public addresses, which usually emphasize only a limited number of main ideas, underscores this perception of complexity. Although Senators Kennedy and Hatfield presented major public speeches to the Senate with their introduction of a joint resolution calling for a bilateral freeze on nuclear weapons, they took their case to the American public with their book, Freeze! This was the first book ever to be published as an accompaniment to either a resolution or a bill in the U.S. Congress.[6] Apparently the Senate Hearings on this subject were thought to be aimed toward a more specialized audience than the general public. Similarly, McGeorge Bundy, George Kennan, Robert MacNamara and Gerard Smith brought their views concerning first-strike options to the public by way of a monograph in Foreign Affairs, rather than through television addresses or speaking appearances. Although all four have, at one time or another spoken in public on the issue and later defended their stand in Foreign Affairs, the major source of delivery was their monograph.

Irony

Not only does the general tone of the discourse in terms of its mode of transmission invite serious reflection, but the tone of individual messages also does so by consistently centering on the ironies of the issue. The descriptions of ironies that pervade the discourse reinforces the complexity of the issue and creates a desire for a simple, straight-forward solution to the problem. The conceptual ironies of the issue provide focal points for

many discussions.

For example, physicians focus on the ironies involved in preparing for the medical tragedies associated with nuclear exchange.

> The resultant irony is that the only nation that has ever used nuclear weapons on a civilian population is the one that is least prepared, by direct past experience of war or disaster to comprehend the effects. (Chivian, et al 138)

> Physicians must think clearly about what they could do in the event of a nuclear attack. . . . The ubiquitous nature of radioactive fallout, the unpredictability of its distribution, and its persistence render useless any medical planning for dealing with the casualties of a nuclear attack. (Chivian, et al 171-8)

> The question so often asked, 'Would the survivors envy the dead?' may turn out to have a simple answer. No, they would be incapable of such feelings. They would not so much envy as, inwardly and outwardly, resemble the dead. (Chivian, et al 292)

Similarly, discussions of the political doctrines that have guided both development and limitation of nuclear arms, center on the ironies of our policies.

> . . . our reliance on 'terror' to provide 'safety,' and on the threat of 'annihilation' to provide 'survival'! (Schell 205)

> . . . as George Kistiakowsky, Harvard chemist and science advisor to President Eisenhower, lamented years later [The Test Ban Treaty] did more to enhance the arms race than to control it. (Ford, et al 26)

> The irony in the 'limits' adopted by the two countries was soon apparent. 'Arms control negotiations are rapidly becoming the best excuse for escalating, rather than turning down the arms race,' Herbert Scoville, Jr., former deputy director of the CIA commented. (Ford, et al 32)

> Thus the basic irony: nuclear weapons -- the special crutch that nominally props up NATO's defenses -- cannot be used without, in all likelihood, obliterating Europe in the process. (Ford, et al 103)

Even the question of how to discuss nuclear warfare is wrapped in the irony of how we may think the unthinkable.

> The right vantage point from which to view a holocaust is that of a corpse, but from that vantage point, of course, there is nothing to report. (Schell 26)

> The perplexity underlying the whole question of extinction is that although extinction might appear to be the largest misfortune that mankind could ever suffer, it doesn't seem to happen to anybody, and one is left wondering where its impact is to be registered and by whom. (Schell 138)
>
> . . . we have begun to live as if life were safe . . . (Schell 152)
>
> It is as though life itself were one huge distraction, diverting our attention from the peril to life. (Schell 182)

Ironies are exposed by the documentaries by editing of the films to juxtapose inconsistent scenes. "The War Game" provides numerous examples of this technique, beginning with the narrator's statement that Britain's policy of deterrence makes Britain a target. The film then juxtaposes scenes of planning committees for civil defense and military preparations for war with man-in-the-street interviews in which people claim that they do not think there will be a nuclear war. The film moves to scenes of citizens showing off their bomb shelters, followed by footage of bomb blast effects. The narrator then quotes a Catholic Bishop's statement that the weapons will be used with wisdom as the screen displays the brutality of a firestorm. The film shifts abruptly to a scientist who suggests that limited war is feasible and returns to the firestorm with a gruesome close-up of a woman slowly dying from carbon monoxide poisoning. Later doctors are shown ordering police to kill the wounded in order to end the misery, and soldiers who refuse to burn the corpses are executed for disobeying orders. A civil defense planner details a suggested meal during the holocaust, and the film immediately shifts to a scene of squallor and soup lines. Toward the end of the film a firing squad executes citizens who have attacked the police during a food riot which makes the demise of civilization unmistakable. Throughout, this juxtaposition exposes the ironies, or paradoxes, of nuclear war.

The frequent exposition of ironies in this discourse not only reinforces

the complexity of the issue, but also underscores the need for interpretation of the problem. Each irony suggests that matters are not what they seem to be, and the accumulation of ironies creates a desire to find the simple truth.

Elite Expertise

Another characteristic of contemporary anti-nuclear discourse arises from the roles assumed by speakers on this issue. The rhetorical personae of speakers on this issue traces a path of institutional affiliation that emphasizes professional expertise. Ordinary citizens attend to the expert discourse and in so doing often form new, single-issue expert groups that rely on independent expert testimony. The persona of professional expertise not only underscores the complexity of the issue, but also casts the issue in terms unique to whichever professional role is speaking. Moreover, scientists, doctors, foreign policy experts, religious leaders and journalists alike, treat the issue in terms of the social reality unique to their dominant social roles.

For example, as inventors of nuclear weapons and experts on the processes by which the weapons produce their effects, scientists offer expertise in forecasting the physical effects of radiation and the like. Similarly, the medical profession has transformed their expertise into preventive medicine and, therefore, prevention of nuclear war. Thus, the editors of Last Aid noted: "The focus of this book is medical, because it is perhaps more evident in this area than in any other that plans to protect people from the lethal effects of nuclear weapons, to recover from a nuclear war and to win one, are meaningless(Chivian, et al xv). Religious leaders also have assumed a perspective unique to their social role. In the precis to the pastoral letter, the Catholic Bishops explain: "We write this letter from the perspective of Catholic faith. . . . As Catholic Bishops we write this letter as an exercise of our teaching ministry"(NCCB 697).

Explicit references to the perspectives from which the various groups speak about nuclear warfare tend to emphasize their institutional affiliations and professional expertise. Frequently the discursive norms of their professions color both the form and content of their messages. The Foreign Affairs article is illustrative. The credentials of MacNamara, Bundy, Smith and Kennan, displayed on the first page, are supplemented by numerous references to their expertise in defense and politics. Like any academic expert, they are explicit about initiating discussion rather than closing discussion on the subject(753). Monographs by the Institute for Defense and Disarmament and the Center for Defense Information also illustrate concern for credentials and scholarly presentation of information.

Common to all the discourse on this issue are scientific, or technical, explanations of the effects of nuclear warfare. Many of the current books devote most of their pages to an almost tedious detailing of effects. Physical effects, including blast damage, fire damage, and radiation damage, are followed by human effects in terms of fatalities, injuries, disease, and psychological damage. Environmental effects and the effects on the orderly conduct of civilian life are also detailed. Most books include at least one chart indicating the probable effects in terms of varying radii from ground zero on a particular city; essays often do the same. Documentary films use the same type of elaboration, frequently following an interview of a scientists concerning effects with either newsreel footage of Hiroshima burn victims or dramatizations of the chaotic aftermath of a nuclear explosion. In all its forms, this system of elaboration presents effects as factual accounts of incredible disaster that must be detailed as specifically and precisely as possible. Authors often apologize for not being able to predict exactly how much ozone will be depleted and subsequently how many crops will be destroyed

by ultraviolet radiation or for being unable to distinguish who will die from radiation sickness instead of dying from blast or heat. The discussion is characterized by precision and attention to detail that exudes professional expertise.

Similarly, the causes of nuclear warfare are often elaborated according to the technical-scientific system. The arms race, as cause, is often elaborated in tedious detail. Statistical comparisons of U.S. and Soviet strength are provided along dimensions ranging from numbers of launchers to numbers of warheads, to amounts of damage that can possibly be inflicted. Although frequently such discussions are concluded with fatalistic comments regarding how high each side can make the rubble bounce, the discussions invariably include a lengthy, technical elaboration of the weapons available. Although this system of elaboration is most apparent in those messages generated by journalists, professional experts and government officials, it often occupies a substantial portion of discourse emanating from research groups and religious groups.

Moral and humanitarian arguments about the effects of nuclear warfare and the morality of various policies provide a comparable tone of expertise. The humanistic arguments tend to move from theological premises and philosophical statements of social values to judgments about particular policies or effects. Part 2 of Fate of the Earth is a prime example as Schell consistently indicates the gap between religious and philosophical teachings and the horror of nuclear war. Similarly, the Catholic bishops adjudicate Catholic doctrine in reference to a variety of contemporary policies that deal with nuclear weapons. The complexity of theological and philosophic argument in these messages is illustrated by the references to texts and hermeneutic method by which morality is determined.

The expertise that characterizes the personae of the dominant speakers on

this issue combined with the serious and complex treatment of the issue thrusts these speakers into an interpretive role with their public audience. In relation to the general citizenry and other expert groups, expert speakers often act as interpreters, explicating a complex issue for the general public, or non-experts from other groups. Regarding their book, the Union of Concerned Scientists wrote: "The purpose of this book, accordingly, is to provide a simple primer on the basic issues involved in the current debate and to outline steps necessary to reduce, and hopefully eliminate the threat of nuclear war"(Ford, et al ix) Similarly, International Physicians for Prevention of Nuclear War wrote in the epilogue of their volume: "We have translated that [catastrophe that would result from a thermonuclear detonation] into effects on the population, on doctors, nurses, and other personnel, and on hospitals and other medical facilities"(Chivian, et al 295) Furthermore, these physicians indicate that their objective is to "help educate their communities"(300).

Despite the rhetorical personae of expertise assumed by speakers on this issue, their messages tend to encourage increased public discussion rather than passive acceptance of expert interpretations. As will become apparent shortly, the emphasis on effects has personalized those effects in ways that legitimize anyone as a speaker on this issue. Furthermore, the causal orientation that results from an emphasis on effects encourages skepticism toward official government discourse on the subject while inviting public participation in the discussion. Explicit encouragement of direct, individual action as a partial solution to the problem further legitimizes public discourse. However, the personae just discussed is important as it provides a model for the public discussion encouraged by these messages.

Personalized Effects

Contemporary discourse departs from previous discourse on the subject in it's preoccupatiion with effects, negative effects. During previous periods, the effects were discussed only in terms of Hiroshima and Nagasaki, or in sanitized scientific language, or not at all. Contemporary discourse, however, has both personalized and expanded the list of effects. Instead of considering the effects in Japan, the current discourse translates those effects into effects on the United States. Practically every message includes a ground-zero chart indicating the effects on a particular city.[7] Statistics indicating the numbers of lives lost and injuries sustained for nearly every metropolitan area of the country are frequently included. The list of effects has been expanded to include the effects on the ecosystem, the governmental structure, and the moral fabric of society. Apologies are issued for the inability to be absolutely precise in the detailed listing of effects.

Perhaps most gruesome in the context of this contemporary fascination with effects, is that these effects are visualized in documentary films. The feature films of previous periods ended with mushroom clouds, never showing the aftermath. Contemporary film footage of Hiroshima and dramatizations leave no mistake as to the horror and extent of destruction in nuclear holocaust. One has the discomforting and eerie impression while examining this discourse that the practitioners are attempting to write the history of the end of the world before it happens because afterward there would be no audience.

Not only are the effects emphasized, visualized, and related to the United States particularly, but the effects are further personalized according to the societal roles of the involved speakers. For example, theologians link nuclear warfare to theological principles or questions of morality; similarly, scientists link the issue to physical effects and impact on the environment.

Doctors emphasize the medical carnage of the aftermath, and former diplomats describe the implications for NATO.

"The War Game" provides an excellent example of effects as they relate to nearly every societal role. The dramatizations of effects in this film include effects on civil defense planners, homeowners, doctors, storekeepers, families, firefighters, nurses, soldiers, housewives, police, and orphaned children. As group after group organized and produced serious discourse on this subject, the effects unique to each group have come into focus finally resulting in the conclusion that noone is immune or protected. As anyone becomes a potential victim according to the vivid and personalized treatment of effects evident in the discourse, the public is invited to engage in the discourse. The potential for victimage legitimizes and promotes public discussion.

Political Orientations

The development in these messages is causal. At base, the cause of the potential for nuclear holocaust is generally portrayed as a "political" orientation to the problem. Whether the particular cause cited is government deception or national sovereignty, the cause is the result of a political perspective. This cause may be elaborated either explicitly or implicitly. Although the causes cited for possible nuclear war are varied and include the arms race, accidents, worldwide political tension, and so forth, a chain of causality is often developed which finally lays responsibility for a potential holocaust on one of several sources: deception by government officials which encourages the arms race, national sovereignty which antagonizes relations among nations, government secrecy which prevents the public from demanding a cessation of the arms race, or ignorance and apathy on the part of the citizenry which allows them to stroll blindly after their government and toward their death.

Jonathan Schell, for example follows a lengthy description of the horror of holocaust with a complex chain of causality that ultimately ends with the concept of national sovereignty.

> Thus, the peril of extinction is the price that the world pays not for "safety" or "survival" but for its insistence on continuing to divide itself up into sovereign nations. (210)

National sovereignty, of course, implies a political orientation toward world affairs.

The Union of Concerned Scientists allow the issue of effects, or holocaust, to remain implicit in their book and proceed to elaborate the cause of the arms race and the cause which can stop the arms race, namely the freeze resolution. They trace the history of the arms race to competing political ideologies and point to the inconsistencies between official government statements and reality as indicative of government's responsibility for encouraging the arms race in the name of ideology. Much of their message is composed of an historical account of the bomber gap, the missile gap, the mine-shaft gap, the ABM gap, the launcher gap, the throw-weight gap, and the spending gap. These gaps, they suggest, are created rhetorically by politicians as a way of gaining domestic support that can further the arms race and, therefore, continue the competitive game between democracy and communism. Furthermore, they indicate, that the mutual suspicions by East and West that are encouraged by the competition between ideologies adds more fuel to the arms race.

"The War Game" lays the blame for this problem on a political orientation that presumes competitiveness, as well. This documentary begins with a narrator's explanation that Britain's nuclear deterrence policy has resulted in the establishment of nearly the entire land mass of the British Isles as a target for the other side. The documentary includes interviews with several

politicians and priests who despair that while we are living in the atomic age technically, we are not adapting to that age politically. The film ends with a warning that the silence by press, public, and television about nuclear weapons provides no hope for the future. This warning is documented earlier in the film when a man-in-the-street interview format reveals that most of those citizens interviewed are unaware of NATO's first strike option and the other political doctrines which could result in nuclear war.

The Foreign Affairs article relies on explicit argument that identifies a potential cause of holocaust as the political orientation of NATO. The First-use Doctrine is dealt with specifically as a cause. A number of articles in the Bulletin of the Atomic Scientists make similar arguments regarding the cause of nuclear holocaust(Blackaby 21-6; Epstein 37-40; Paine 11-14; Hollins 63-5).

Placing the responsibility for this problem on political orientation often results in the implication that government officials are responsible. Because they are the guardians of political orientations, they must be at fault, ultimately. The causal chain developed by the Union of Concerned Scientists is, perhaps, the most explicit treatment, however implicit development of causal argument often results in a similar conclusion.

Three of the documentaries provide excellent examples of implicit causal arguments. "The Atomic Cafe" is a collage film that moves the viewer through a series of psychological states by displaying cuts from a number of newsreels and government training films.[8] The film opens with footage of the first successful atomic bomb test in New Mexico, a scene that likely produces feelings of dread, remorse, and perhaps even guilt for most contemporary audiences. This footage is followed by a remarkable array of clips, ranging from Truman's announcement regarding Hiroshima, to officials of the Atomic Energy Commission assuring Utah residents that testing would not yield any

harmful radiation, to army training films, to educational announcements advocating the "duck and cover" technique for surviving a nuclear blast. These scenes, which seem guaranteed to evoke at least embarrassment and probably outrage by the audience are followed by footage of the devastation following nuclear attack on Japan. Interspersed among this footage are clips of the civil defense propaganda. As one reviewer put it:

> [The film points to] an irresistible conclusion. We have been lied to since the dawn of the atomic age about the nature of nuclear war, the true extent of its destructiveness, our lack of ability to survive--let alone win-- one, and our leaders' political purposes in contemplating such a war. (Armstrong 2)

"If You Love This Planet" also implicitly develops the cause of the problem as the inadequacies of the political orientation assumed by government officials. This documentary is unified by a narrator, Dr. Helen Caldicott, who speaks from the role of a lecturer in a large auditorium. Caldicott introduces main ideas which are followed by film footage from both newsreels and commercial films. Following footage of the devastation in Japan, the film returns to Caldicott who issues the rhetorical question: "How could nuclear war happen?" Immediately, the viewer is confronted with a scene from the feature film, "Jap Zero," which shows actor Ronald Reagan entering a control room as a military officer and saying: "I guess I don't know as much as I thought." The implication that governmental officials are responsible for the nuclear peril is clear.

A more subtle causal argument of this type is used in the documentary, "War Without Winners." Following a similar narrative format, this film juxtaposes statements regarding the feasibility of nuclear war by real government officials with shots of mushroom clouds and cuts from "Dr. Strangelove." The exaggerated perversity of the characters in the War Room scenes from "Strangelove" are likely to be attached to the real government

officials, and the proximity of the official statements with the prime symbol of nuclear holocaust encourage a "guilt-by-association" line of argument.

Several of the books of this period also make the causal argument regarding political orientation implicitly. Nukespeak reviews the history of nuclear policy in a fashion similar to "The Atomic Cafe." The reiteration of episodes of government classification and propaganda efforts clearly implies that political deception is promoting the problem. The physicians in Last Aid refuse even to consider politicians as part of the audience for the book because of the vagaries of the political orientation. They write in the forward:

> The book is aimed straight at these people. They are the armed services, the soldiery, the professional class responsible for the profession of arms. . . . The politicians can always find expedients in policy, new rhetorical ways to waffle; they can always postpone decisions, hope for the best, maybe serve out their terms. (Chivian, et al xii)

Similarly, the Catholic Bishops indicate that this issue is inappropriate for political orientations. In the Pastoral Letter, they observe:

> Our contribution will not be primarily technical or political, but we are convinced that there is no satisfactory answer to the human problems of the nuclear age which fails to consider the moral and religious dimensions of the questions we face. (700)

Again, the implied argument is that to maintain a national, or political orientation toward the problem is to continue the problem.

Analyzing Government Talk

Given the causal attack on government, it is not surprising to find that the discourse under study frequently uses official government statements as the point of departure, from which to make "new" statements regarding the issue. Statements originating with government officials and official policy are frequently used as hypotheses to be debunked, arguments to be refuted, deceptions to be exposed, or as illustrations of ironies that require explanation.

Independent journalists, in particular, often emphasize and analyze the talk that emerges from various groups. The most often used topoi in 69 news articles on the subject was the effect of various groups' messages on policy and subsequent messages.[9] Scheer's book is devoted almost exclusively to analysis of the Reagan Administration's talk. Anti-nuclear books emphasize the capacity to deceive by comparing official talk about nuclear warfare with scientific explanations of the situation(Ford, et al Ch. 8; Hilgartner, et al). Various books and monographs analyze the public relations campaigns initiated by the government(Hilgartner, et al; Kennedy/Hatfield 142-3) and provide suggestions for similar campaigns that can be conducted by professional groups. Documentaries frequently juxtapose official government statements regarding the effects of nuclear war or the efficacy of civil defense with shots of mushroom clouds, firestorms, and the general devastation associated with nuclear holocaust. By this system of elaboration, the nuclear warfare issue becomes one that must be protected from deception, one in which complexity has the capacity to obscure. Thus, the public is encouraged to assume a cautious attitude toward the official statements on the subject and to continually interpret the messages they encounter.

The most frequent refutation of argument is the refutation of official government statements indicating that the Soviets have nuclear capabilities superior to those of the United States. One-fifth of the articles examined discussed this topic at length. The books by Kennedy and Hatfield(Ch. 6) and the Union of Concerned Scientists(Ford, et al 5-12) provide the most complete refutation of this claim. Other government statements, such as the viability of limited nuclear war, the feasibility of civil defense, and the notion that a nuclear war is winnable are also refuted. Limited nuclear war is given much attention by Schell and in the Foreign Affairs article. The myth of civil

defense is treated in a particularly thorough manner by the documentaries. Both Schell and the International Physicians for Prevention of Nuclear War address the issue of winning a nuclear war.

Two books, in particular, focus on official government statements as examples of deception. Scheer provides numerous examples in his book, which is devoted to analyzing statements made by members of the Reagan Administration For example:

> START stands for Strategic Arms Reduction Talks and represented a replay of Reagan's successful ploy in his pre-election debate with Carter, when he called for bilateral arms reductions in an effort to counter Carter's portrayal of Reagan as a war monger. (Scheer 7)

Similarly, Nukespeak provides a litany of examples of government statements designed to deceive. Nukespeak provides evidence of secrecy, public relations campaigns, propaganda, and intimidation. It reports, for example, that Eisenhower suggested leaving terms like "thermonuclear," "fission," and "fusion," out of press released in order to "keep them [the public] confused"(Hilgartner, et al 217-8).

Government statements often provide the basis for exposing ironies. The juxtaposition of government films concerning civil defense and fallout with scenes of destruction and photographs of burn victims in "The Atomic Cafe" and "The War Game" are obvious examples. Relying on official government terminology, Hilgartner, et al observed:

> The world of nuclear warfare is a world of double-think, a hall of mirrors, where peace is preserved through the constant threat of war, security is obtained through mutual insecurity, and nuclear war planners 'think about the unthinkable, - holding millions of civilians hostage to the most powerful death machines in history. (209)

Personalized Solutions

Given lines of argument that focus on the cause of the nuclear peril as the political orientation of governmental officials, it is not surprising that

most often the cause suggested as curative of the problem is direct public action. Perhaps the most striking characteristic of contemporary discourse, as opposed to that during previous periods, is the amount of time and space given to explaining what actions citizens can take to reduce the threat of nuclear war. The materials distributed by citizen groups frequently include information about how citizens can monitor the government, endorse resolutions, and lobby for particular policies. The Pastoral Letter, for example, includes a lengthy list of actions which concerned citizens from all walks of life(priests, educators, parents, men and women in defense industries) can take, including education on the issue, prayer, development of battle plans that reduce destruction, dissassociation with defense industries, and so forth(NCCB 722-6). Last Aid and "If You Love This Planet" end by demanding that we consider politicians our patients and begin a program of preventive medicine. The International Physicians for the Prevention of Nuclear War provide a list of nine activities in which any member of the health professions may engage(Chivian et al 310). Both the various information kits made available by SANE and the book, Freeze!, include steps citizens can take(Kennedy/Hatfield Ch. 10).

The individual actions seem to be aimed at a common outcome -- increased individual awareness and establishment of still more organizations devoted to preventing nuclear war. In general, regardless of the particular proposal advanced as curative, the root solution is explained as public awareness. "The War Game" calls for an end to silence on the issue. Schell exhorts us to "reject our doom, and bend our efforts toward survival -- if we arouse ourselves to the peril and act to forestall it making ourselves allies of life -- then the anesthetic fog will lift"(Schell 231).

Conclusion

To a large extent, this essay has been a description of the relationships between speakers and their audiences in regard to the issue of nuclear warfare. As the potential for nuclear warfare was initially developed, scientists spoke to government officials. During the subsequent decades of nuclear weapons development, refinement and proliferation, scattered attempts were made by scientists and others to speak to the people. However, the government maintained a grip on information and discourse about this issue that discouraged serious public discussion, and elite experts in science and politics tended to direct their comments toward attentive government officials rather than toward the inattentive public. Despite isolated instances of public concern, the public attended primarily to imaginative, fictional treatments of the issue until recently.

The contemporary discussion of nuclear warfare signals a reversal in the speaker-audience relationships of the past. Elite experts -- scientists, doctors, religious leaders, etc. -- have directed their comments toward the people. As the effects of nuclear warfare are expanded and become more personalized and the ways for avoiding nuclear warfare are oriented toward individual actions, the people gain increasing legitimacy as speakers on this subject. As the issue is elaborated in ever more complex ways and the ironies of our creation and sustenance of our own destruction become more apparent, a desire for the simple truth and uncomplicated answers encourages public appropriation of the issue that can escape the complexities of government entanglements. Thus the public has begun to speak to itself.

Government has, for all practical purposes, been excluded as both a speaker and an audience. The messages of government have been received with suspicion and skepticism, used as points of departure and claims to be refuted. In short, the government is losing its legitimacy as a rhetor about nuclear warfare. In its place elite experts and the public itself are finally

claiming the issue of nuclear warfare. The network for a public counterveiling power to government on this issue has been established.

Despite the optimism I feel consequent to the increased public discussion about nuclear warfare, that discussion seems particularly fragile to me. First, the model for public discussion presented by the contemporary period is one of serious complexity in which institutional affiliation and professional expertise appear to be crucial for establishing the discussion as legitimate. In other words, considerable effort seems to be required to participate in discourse about nuclear warfare, an effort the citizenry may not be willing to expend consistently as they are pressured by the more mundane affairs of everyday life.

More importantly, the contemporary anti-nuclear discourse seems to depend for its impetus on a fundamental mistrust of government. If government statements are the necessary impetus, then government may stifle continued public discussion by a policy of silence. One need only remember the case of the neutron bomb to experience this sobering caution. The neutron bomb was developed, tested, and nearly deployed in relative government silence from Administrations that seemed in most other respects to be relatively peaceful and nonaggressive.[10] If the contemporary discussion drives government discourse underground,[11] then we may see more new tests under the Nevada desert that are reported in single paragraphs in daily newspapers rather than subjected to public discussion and debate prior to the explosion. Perhaps there is a need to expand the audience of the contemporary discussion to include government, as well.

As the number of elite experts and independent groups proliferated to encourage public discussion of the nuclear warfare issue, the Bulletin of the Atomic Scientists set its doomsday clock back just a bit. Communication

experts can contribute to the effort for peace by identifying, encouraging and participating in "public discourse" about nuclear warfare rather than merely attending to discourse about the "public issue" of nuclear warfare. From a communication perspective, this is a time for hope.

Notes

1 Despite Szilard's attempts to secure self-censorship by British and American scientists, over 100 papers on fission were published in 1939 alone.

2 For example, Hersey reported in Hiroshima that: "Long before the American public had been told, most of the scientists and lots of the non-scientists in Japan knew that a uranium bomb had exploded at Hiroshima and a more powerful one, of plutonium at Nagasaki. They also knew that theoretically one ten times as powerful could be developed." Hersey, p. 105. Nukespeak reviews the government's elaborate system of classification in Chapter 5.

3 A complete description of both the messages criticized and my method for selection is available in my dissertation, "The Implications of Foucault's Archaeological Theory of Discourse for Contemporary Rhetorical Theory and Criticism," unpub. diss. (Penn. State U., 1984), Chapter 4 and Appendices A and B. The study analyzed sixty-nine articles from periodicals, six books, four documentary films, and seven miscellaneous statements, essays and documents.

4 This information is not readily available from the film itself, but was obtained through a personal interview with the Public Relations Director of Films, Inc., June 1983.

5 Two exceptions to this generalization are General Sir John Hackett, The Third World War (New York: Macmillan, 1979) and the commercial film "War Games."

6 Verified by personal interview with three aides in Senator Kennedy's Press Office, May 1983.

7 Detroit appears to be the most popular target.

8 The film is a good example of the literary form described by Kenneth Burke as a qualitative progression. See, Kenneth Burke, Counter-Statement (Berkeley: U. Cal. Press, 1968), pp. 124-5.

9 The topic most often discussed was the government responses to the discursive actions of anti-nuclear groups; next in frequency was discussion of the status of those speaking against present nuclear policy; third was the suggestion that loose talk by the Reagan Administration had caused the anti-nuclear movement and more conciliatory talk by the Administration would diffuse the movement (a speculation assuming an eerie truth in the past year).

10 A fairly detailed discussion of the neutron bomb issue is available in Martha Cooper, "A Foucaultian Analysis of the Neutron Bomb Issue," unpub. paper presented at the Speech Communication Association, Annaheim, CA, Nov. 10, 1981.

11 I am referring to the December 30, 1986 reports of an underground test conducted by the U.S. government as part of the Strategic Defense Initiative.

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